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ABSTRACT

In the context of reciprocity theory (in which disclosure by one person elicits self-disclosure by another person), personal space preferences of three-, four-, and five-year-old children were examined. Equal numbers of each age group and sex (N=120) were either given or not given material rewards and were either touched or not touched by the experimenters. Results revealed that children chose to be closer after being given a material reward but the same was not true for touching. Consistent messages resulted in closer approach distances than inconsistent messages. It was concluded that children as young as age three recognize and use reciprocity theory in interpersonal relationships. (Author/TJ)

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A Child's Space: Personal Space Preferences of Preschool Children as a Function of Material and Tactile Stimuli

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Abstract

In the context of reciprocity theory, personal space preferences of three, four and five year old children were examined. Equal numbers of each age group and sex (N = 120) were either given or not given material rewards and were either touched or not touched by the experimenters. Results revealed that children chose to be closer after being given a material reward but the same was not true for touching. Consistent messages resulted in closer approach distances than inconsistent messages. It was concluded that children as young as age three recognize and use reciprocity theory in interpersonal relationships.

(96 words)

A Child's Space: Personal Space Preferences of Preschool Children as a Function of Material and Tactile Stimuli

In the research on self-disclosure one finding is clear: disclosure by one person (A) elicits self-disclosure by another person (B) (Jourard & Friedman, 1970; Worthy, Gary & Kahn, 1969; Cozby, 1972; Derlega, Harris & Chaikin, 1973). Jourard (1959) found that this idea of reciprocity is intrinsic to interpersonal exchange. If A discloses some piece of information about him/herself to B, then B will probably reciprocate and tell A something about him/herself. If A reveals superficial information, then B will probably also reveal superficial information; if A reveals intimate information, so will B.

Altman (1973), in developing a theory of interpersonal exchange, identified a key element in the transactional process as the "norm of reciprocity." But the idea of reciprocity is not new. Much earlier Gouldner (1960) hypothesized a subtle quid pro quo between persons rather like, "You tell me your secrets and I'll tell you mine." Further, it has been noted that while the process of reciprocity of information exchange seems to be a factor of developing relationships, the absence of such exchange actually inhibits a relationship from developing. When the relationship is unequal, i.e. one person is the information giver and the other the information receiver, then both persons will feel uncomfortable. In the event that the receiver fails to reciprocate with some disclosure of information, the

relationship may come to an end (Chaikin & Derlega, 1974).

It has even been shown that the norm of reciprocity is involved when superficial or nonintimate information is disclosed. Studies have revealed that superficial aspects about the self are generally more accessable to others than is more revealing information. In addition, nonintimate information appears to operate even closer to the norm of reciprocity than does intimate information (Altman & Taylor, 1973).

While most of the studies on reciprocity have dealt with verbal self-disclosure, the concept appears to be more general. Altman and Taylor (1973) see "the development of interpersonal relationships as a multilevel behavioral process, involving verbal, nonverbal and environmental behaviors." Derlega and Chaikin (1975) when talking of the norm of reciprocity stated "operating in a quid pro quo manner, people often feel obligated to return the services they have received from others--whether money, favors or disclosures" (Derlega and Chaikin, 1975, p. 42). This suggests that if person A gives something to person B, then B will quite likely reciprocate and give something to A. Hence, it may be hypothesized that overt behaviors may be observed which are indicative of the norm of reciprocity in actual operation.

An extension of reciprocity theory

Few studies seem to have used preschool children when looking at reciprocity theory (Strain & Shores, 1977). Perhaps this is because the preschool

child has not yet acquired the verbal facility to express the reciprocity norm. However, the use of reciprocity theory can be seen in the actions of a child. If a person reads to a child, the child may reciprocate by giving the person a hug. If an adult takes the child to a park, the child may pick a dandelion for that person. At the beach, a child may give the adult who brought him/her a pretty pebble. These actions seem to suggest that a child does, in fact, understand the idea that when someone is nice to you, you should be nice in return.

Two ways in which a child seems to reciprocate are by touching and/or by giving a gift. These behaviors seem to work both ways. Not only does a child reciprocate with these actions toward others but she/he also responds to these behaviors from others. That is, when a gift is given to a child she/he might reciprocate by giving a person a gift. When an adult hugs a child, the child might respond by giving that person a hug back. A child, even a very young child, sees both touching and gift giving as nice things or, in another sense, as positive behaviors.

When an adult gives a child a message that says "I like you," reciprocity theory predicts the child will respond with a similar message. If the adult gives this message with a nonverbal stimulus (e.g. touches the child) and/or a material stimulus (e.g. gives the child a gift) then one way a child might respond is by decreasing the distance she/he puts between him/herself and the adult. That children have the ability to recognize and use distance as an affective message has been found in several studies. King (1966) found that the approach distance in a sandbox was related to interpersonal liking. Post and Hetherington (1974) varied proximity among adults to investigate sex

differences in children's judgments of affiliation. They found that a child was able to identify distance as a social cue by the age of four. Melson (1976) found that four to six year olds readily perceived and used distance to communicate the affective quality of peer relationships.

These studies have shown that a child can and does use personal space to communicate affect. If a child understands the norm of reciprocity, at least at the preconscious level, then the distance the child puts between him/herself and an adult should vary with the message the adult sends to the child. We therefore hypothesize that:

Hypothesis 1

> Providing a child with a material stimulus, i.e. giving the child a gift, will result in the child drawing closer to the gift giver than when not providing the child with a material stimulus.

Hypothesis 2

> Providing a child with a nonverbal stimulus, i.e. touching the child, will result in the child drawing closer to the adult than when the adult does not provide the nonverbal tactile stimulus.

A third hypothesis can be generated from the first two. According to balance theories, we constantly try to maintain equilibruim in our lives. (Heider, 1958; Newcomb, 1953; Festinger, 1957). We like the world to be predictable. When an inconsistency arises, it creates dissonance or imbalance in us and we try to rid ourselves of the inconsistency or imbalance. A child might respond to this imbalance caused by the inconsistency by withdrawing from the adult. Thus, it was further hypothesized that:

Hypothesis 3

> When two stimuli that the child receives are inconsistent, i.e. being touched but not being given a gift or being given a gift but not being touched, the child will put a greater distance

between him/herself and the adult than if the stimuli were consistent, i.e. being touched and given a gift or not being touched nor given a gift.

Finally, the possibility of confounding our results was noted. Both the age and sex of the child have been found to effect the outcome of studies in the past (Melson, 1976, 1977; Lomranz, Shapiro, Choresh & Glat, 1975; Post & Hetherington, 1974; King, 1966). Consequently, age and sex have been controlled in this study. Therefore, the complete design is a 2 (sex of the child) by 2 (gift/no gift) by 2 (touching/no touching) by 3 (age) analysis of variance.

Method

Subjects

A balanced sample of 60 boys and 60 girls participated in the study. Within each sex, three age groups of 20 children each were sampled: three year olds, four year olds, and five year olds. The selection of children for inclusion in each age group was done by using those children whose birthdays fell in a six month bracket on either side of the desired age. For example, no child in the four year old category was less than three years and seven months old nor more than four years and six months old. The same procedure was followed for both the other age groups. The children were selected from eight affilliated day care centers in the metropolitan Milwaukee area. Given the size of the total sample (N = 120), a random sample of 15 children from each center was drawn stratifying by age and sex.

The day care centers themselves were distributed across a wide variety of neighborhoods in Milwaukee. While we have no data on the socio-economic status of the parents, the sample is clearly a random selection from those

children attending such day care centers in a large urban area. Naturally, the upper class and the very lower classes are probably not present. The sample is, however, a fairly representative slice of middle and upper middle class America to the best of our knowledge.

Materials

Before the start of the study, a wide variety of items were considered as possible choices for the material stimuli. Discussions with the center director and teachers pointed us toward what seemed to be an ideal gift: the sticker which is placed on an occasional banana. Each day the children are given a snack. Frequently, the snack is a banana. The fortunate child who happens to get the banana sticker is the envy of the class. Banana stickers seem to have high currency among the children. They are perishible, children lose them and parents will probably throw them away when the child gets home. Unlike toys which become common and boring, the banana stickers in a child's world always seem to disappear thus maintaining the sticker's high novelty and therefore its high value to the child.

A felt board game that has been used successfully with preschool children as a measure of preferred interpersonal distance (Kuethe, 1962; Little, 1965; Melson, 1977) was used in this study. The felt board, 60 cm. by 35 cm., was covered in light blue material with two dark blue sex-neutral felt figures on the board.

Procedure

The experimenters, both female, arrived in the mornings before the start of classes. The testing room was located, materials arranged and the list of children to be sampled was shown to the teacher to be sure that the children

would be available. In the event any child was absent that day, a list of alternative children was always prepared.

Experimenter 1 went to the classroom to get the child. The child was told that she/he would be introduced to someone who wanted to talk with them for a few minutes. If the child agreed to do this (approximately 17 children refused), she/he was taken to the testing room and introduced to Experimenter 2 after which Experimenter 1 left the room. Experimenter 2 talked with the child for about five minutes either touching or not touching the child during the conversation. At the end of this time, the child was either given a banana sticker by Experimenter 2 or told that there were none left and one would be mailed to the school for him/her. Experimenter 2 then left the room to get the next child as Experimenter 1 entered the room.

Experimenter 1 showed the child the felt board and felt figures. After making sure that the child was familiar with the felt board, Experimenter 1 pointed to the felt figure attached to the board and said, "Let's pretend this is you. This other felt figure is (gave the name of the other experimenter)." The child was then asked to place the felt figure representing the other experimenter on the felt board. The distance between the two figures was measured in centimeters. The child was thanked for his/her help and returned to the classroom.

Experimenter 2 entered with the next child and Experimenter 1 talked with the child. In this manner Experimenter 1 and Experimenter 2 were able to alternate their roles with each talking with 60 children.

Independent Manipulations

After the Experimenter and the child had talked for about five minutes, the Experimenter said she would like to give the child something for being

so nice and talking with her. Either a banana sticker was then given to the child or the explanation was offered that, while the other children had received banana stickers there were none left. However, the Experimenter did have some at home and she would mail one to the child that evening. Once the child understood this, the other Experimenter came into the room.

It should be kept in mind that the first seven or eight children at each school were given the banana stickers. Debriefings with the teachers confirmed that the children knew that banana stickers were being dispensed. It was felt that the child would interpret not getting a banana sticker immediately as a negative message. For testing purposes, only the required number of banana stickers were brought on a given day. This was done to avoid deception. Thus, each Experimenter was telling the child the truth about being out of stickers once the limited supply had been exhausted.

A marked slip of paper, drawn by the Experimenter just before the child entered the room, determined whether the child would be in the touch or no touch condition. In the touch condition, the Experimenter talked with the child, smiled and touched the child as much as possible. This included hugging, cuddling, tickling and generally staying close to the child. In the no touch condition, the Experimenter talked with the child, smiled but did not touch the child at all.

Results and Discussion

Our first concern was to ascertain whether or not there were any systematic differences due to the individual experimenters. Previous studies (Stevenson, 1961) have indicated that children may respond differently to different adults.

The same finding is also the case in the present study. The mean distance as measured by Experimenter 1 was 19.75 cm. For Experimenter 2 the mean distance was 15.85 cm. (t = 2.00; df = 118; $p < .05$). Consequently, the distance measurements were transformed into Z scores.

Our first concern was with the effect of the gift on the distance between the child and the experimenter. We suggested that when an adult gives a child a message saying "I like you" via an approving stimulus, the child will reciprocate by drawing closer to the adult. This hypothesis was confirmed. When a child was given a banana sticker, the mean distance she/he wanted to be from the experimenter was 13.36 cm. When the child did not receive a sticker, the child wanted to be 18.35 cm. from the experimenter. As shown in Table 1, this difference is statistically significant (F (1,96) = 6.47; $p < .025$). The finding lends support to the fact that very young children appear to recognize and use reciprocity theory in social relationships.

Insert Table 1 about here

That we should get these results from so superficial a gift as a banana sticker is not at all surprising. First, Altman (1973) has hypothesized that the felt obligation to reciprocate is strongest during the initial stages of an encounter with another. Thus, even the most superficial gift would be expected to produce a strong effect. Second, it is possible that from the child's point of view, the banana sticker was quite an important gift. In either case, the use of the reciprocity norm by children as young as age three

can be seen clearly.

The second hypothesis suggested that when a child was given a positive tactile stimulus, the child would desire to be closer to the adult than when no positive tactile stimulus was forthcoming. This hypothesis was not supported by the data. The most obvious reason for the lack of support is suggested by Wood (1976). She examined the verbal and nonverbal behaviors among children and concluded that young children have a difficult time in properly interpreting nonverbal messages. For instance, when the visual, vocal, and verbal channels of a message were not in agreement, the child would believe the verbal message. In fact, the child does not seem to interpret the nonverbal part of the message correctly until well into the teen years (Bugenthal, et. al., 1970). However, the child can and does use nonverbal behaviors as we have already seen in the confirmation of the first hypothesis. Apparently, the use of nonverbal messages and the interpretation of those same nonverbal messages by others are separate processes developing at different rates. While this assertion remains to be tested by future studies, these data are not inconsistent with such a conjecture.

Finally, we turn to the third hypothesis. Here, balance theory would predict that a consistent message will produce closer distances than an inconsistent message. The reader will no doubt have observed that this hypothesis is tantamount to predicting an interaction between the banana sticker and touching. This interaction is, in fact, significant (F (1, 96) = 5.22; $p < .025$). It is important to note that the interaction could be highly significant without confirming the consistent/inconsistent hypothesis. The significant interaction is only a necessary, not a sufficient condition

for confirmation. By collapsing across the consistent messages--touched and given a banana sticker combined with not touched nor given a banana sticker--we found that a child wanted to be 14.10 cm. away from the adult. By collapsing across inconsistent messages--touched but not given a sticker combined with not touched out given a sticker--we found that a child wanted to be 17.60 cm. away from the adult. This difference was significant ($t = 2.13$; $df = 110$; $p < .05$). The third hypothesis is supported. Also interesting is the fact that the explained variance is greater for the consistent/inconsistent explanation ($r^2 = .037$) than for the interaction per se ($\omega^2 = .0296$).

Even though we did not predict it, the significant main effect of age is probably worth noting. In this study the five year old wanted to be the closest to the experimenter. The mean distance for five year olds was 12.65 cm. The mean distance for the four and three year olds was 18.65 and 16.26 cm. respectively. This finding is in accord with earlier research. Melson (1977) has suggested that a nonlinear relationship may exist between age and the amount of preferred interpersonal distance. She found that four year olds used greater distance from their peers than younger children did. Miesels and Guardo (1969) found that among third to tenth graders less space is used with increasing age. Our data would suggest that decreasing distance begins at age five as the child gains expertise in using distance as a means of communication. While our data cannot address the full scope of this conjecture, the findings are suggestive of such a trend.

Implications

A number of implications appear to have emerged from the present investigation.

First, it seems that children, even very young children, are able to understand and use the norm of reciprocity in social relationships. Second, even though children may not understand the nonverbal messages of others, they appear to be able to use nonverbal communication to send their own messages. Third, consistent nonverbal messages are more favorably received than are inconsistent nonverbal messages. Finally, we have an overall observation that is perhaps not so much an implication as a comment. That is, children may be far more subtle communicators than they have been given credit for being. They may lack the verbal facility of adults but they clearly have a grasp of communication principles and rules.

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Table 1

Analysis of Variance of Material Stimuli,

Tactile Stimuli, Sex, and Age of Child

Source	Mean Square	df	F	ω^2
A: Sex of the child	.52	1	.62	
B: Age of the child	3.72	2	4.43*	.0481
C: Banana Sticker	5.44	1	6.47*	.0383
D: Touch	.14	1	.16	
A x B	1.17	2	.25	
A x C	.28	1	.33	
A x D	.11	1	.13	
B x C	1.87	2	2.23	
B x D	.75	2	.89	
C x D	4.38	1	5.22*	.0296
A x B x C	2.32	2	2.77	
A x B x D	1.86	2	2.21	
A x C x D	.31	1	.37	
B x C x D	.03	2	.03	
A x B x C x D	1.84	2	2.19	
Residual	.84	96		
Total		119		.116